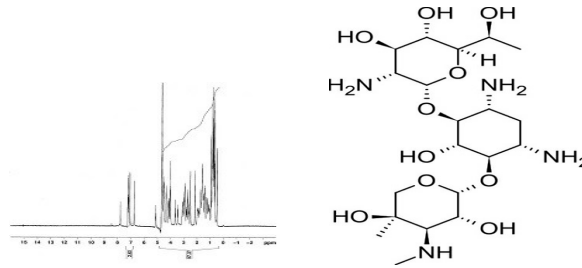


Product Name:	G418 Disulfate, EvoPure®
Product Number:	G030
CAS Number:	108321-42-2
Molecular Formula:	C ₂₀ H ₄₀ N ₄ O ₁₀ · xH ₂ SO ₄ (lot specific)
Molecular Weight:	496.55 g/mol (Free base)
Form:	Powder
Source:	Biosynthetic: produced by <i>Micromonospora rhodorangea</i> .
Absorbance:	1mg/ml (water): 280nm <0.015 570nm <0.01 100mg/ml (water): 570nm <0.01 1.74g/25 ml (water): 280nm <0.7
pH:	4.6-6.0
Boiling Point:	1012.1 °C
Flash Point:	565.9 °C
Storage Conditions:	Ambient
Description:	<p>G418 Disulfate, EvoPure® is a highly pure (≥ 99.0%) version of our G418 Disulfate. It has been purified to remove the impurities commonly present in G418 Disulfate (G001). This aminoglycoside antibiotic originally isolated from <i>Micromonospora rhodorangea</i> is routinely used for gene selection in cell culture.</p> <p>We also offer:</p> <ul style="list-style-type: none">• G418 Disulfate Solution (50 mg/ml in Water)(G020-G021)• G418 Disulfate (G001)
Mechanism of Action:	<p>G418 disulfate, and other aminoglycosides, including <u>kanamycin</u> and <u>neomycin</u>, prevent protein synthesis by blocking the elongation step in prokaryotic and eukaryotic ribosomes.</p> <p>Mechanism of resistance:</p> <p>Resistance to G418 sulfate is conferred by the <i>neo</i> gene (neomycin resistant gene) from either Tn5 or Tn601 (903) transposons. Cells successfully transfected with resistance plasmids containing the <i>neo</i> resistance gene can express aminoglycoside 3'-phosphotransferase (APT 3' I or APT 3' II) which covalently modifies G418 to 3-phosphoric G418. 3-phosphoric G418 has negligible potency and has low-affinity for prokaryotic or eukaryotic ribosomes.</p>
Spectrum:	G418 Disulfate is toxic to susceptible bacteria and fungi.
Microbiology Applications	G418 Disulfate is used as a gene selection agent during transfection of eukaryotic cells.

Technical Data:

HNMR Spectra



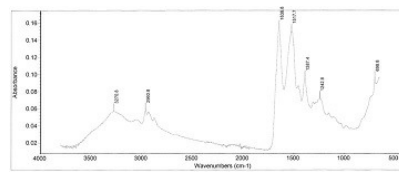
[Click to enlarge](#)

Solvent: D2O

Instrument: Mercury 300

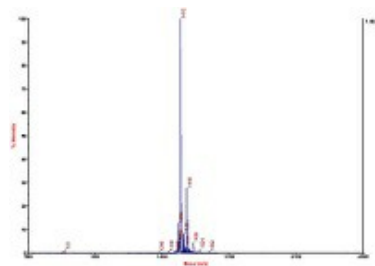
Frequency: 300 MHz

FTIR Spectra



[Click to enlarge](#)

Mass Spectra



[Click to enlarge](#)

Polarity/Scan Type: Positive

Solvent: Water

Solution Concentration: 10 mg/mL

References:

Aragão FJL and Brasileiro ACM (2002) Positive, negative and marker-free strategies for transgenic plant selection. *Braz. J. Plant Physiol.* 14(1):1-10

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Delrue I, Pan Q, Baczmanska AK, Callens BW and Verdoodt LLM (2018) Determination of the selection capacity of antibiotics for gene selection. *Biotechnol. J.* 13(8):1700747 PMID 29436782

Lin-Cereghino J et al (2008) Direct selection of *Pichia pastoris* expression strains using new G418 resistance vectors. *Yeast* 25:293-299

Shin Y (2007) Selection of NptII transgenic sweet potato plants Using G418 and paromomycin. *J. Plant Biol.* 50(2):206-212

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